

REMARKS/ARGUMENTS

The courteous telephone interview granted applicants' undersigned attorney by Examiner Barqadle on February 13, 2007 is hereby respectfully acknowledged. The arguments presented in the interview are set forth below.

Claims 1-8 and 11-23 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,219,703 (Nguyen et al.) in view of U.S. Patent No. 5,913,037 (Spofford).

Claims 1, 14, 18, 19, 20, and 23 have been amended to clarify that the notifications have an associated list of objects to include in notifications generated by the agent and that the management station instructs the agent to modify the list so that notifications generated at the agent comprise the modified list of objects in the order specified by the management station. The claims have also been amended to require the management station to specify a list of variable bindings to include in at least one of the notifications supported by the agent.

Applicants respectfully submit that claims 1-8 and 11-23, as amended, are patentable over Nguyen et al. and Spofford et al., which do not show or suggest sending a message to an agent specifying objects to include in a notification and the order of the objects.

As described in previous amendments, the Nguyen et al. patent discloses a method and apparatus for constructing a device Management Information Base (MIB) in a Network Management Station (NMS). The device provides an agent, which includes a management structure MIB having data describing a device MIB structure supported by the device. The NMS includes device MIBs and a discovery application, which detects that a device is present on the network and accesses the management structure MIB to obtain data describing the device MIB structure. The NMS retrieves a list of standard MIBs and objects supported by the device using a conventional SNMP GET-NEXT

command over the standard MIB table (steps 508 and 512 of Fig. 5). The NMS accesses the management structure MIB using conventional SNMP communications through a communications link. The NMS then constructs a MIB for managing the device and loads it into the memory of the NMS. The management station does not specify to the agents which objects to include in each notification or the order of the objects, as required by claim 1. The management station simply receives information about the notifications from the agent. The content of the notifications generated by the agents is determined by the agent with no input from the management station.

The Spofford et al. patent is directed to a dynamic management information base manager for dynamically managing a tree of SNMP data objects identified by a standard object identifier along with each object's value. As shown in Fig. 2A, the MIB manager is located at the network device (agent). Spofford et al. are concerned with managing an internal management information base and do not address sending or receiving notifications or any details of how the objects contained within the notifications are selected.

The Examiner has failed to point to any teaching of sending a message from a management station to an agent instructing the agent to modify a list of objects associated with a notification so that notification generated at the agent comprises the modified list of objects in the order specified by the management station. In conventional systems, such as those disclosed in Nguyen et al. and Spofford et al., the management station has no control over what information is provided by a notification. The agent decides what information to include in the notification. If the information maintained by and transmitted between agents and the management stations differ it is difficult for the management station to interpret the notifications received from the agents.

In rejecting the claims, the Examiner states "Spofford, Fig. 4 shows an agent 408 that is responsible for updating the dynamic MIB. The agents add and delete MIB objects. Spofford, Fig. 5A-5C shows that MIB structures have a specific order, therefore updating objects within the MIB would necessitate knowledge of the order of the objects

(Col. 10, lines 51 to col. 12, line 12 and Col. 12, lines 22-35).” This portion of the patent describes how the management station sends conventional requests which include OIDs to one or more objects to be read or modified. The agent executes functions in response to the SNMP requests to retrieve or modify the information as desired. As noted above, modification of an MIB without modifying notifications creates problems addressed by applicants’ invention.

In conventional systems, the agent selects which objects contained in the MIB to include in a notification and the order of the objects. Thus, modifying an MIB is not the same as specifying which objects of the MIB to include in a notification or the specific order of the objects. Furthermore, even if an MIB structure has a specified order, that does not identify the order of the objects within a notification. With systems, such as disclosed in Nguyen et al. and Spofford et al., agents select which objects to include in a notification and the order of the objects. The MIB provides definitions for the objects, but does not specify which of the objects to include in the notification. Applicants’ invention, as set forth in the claims, allows a management station to specifically instruct an agent which objects to transmit for each notification generated at the agent, so that notifications can be easily reconfigured by a management station. The management station can thus communicate effectively with different network devices, which may be configured to generate notifications with different objects or objects listed in different order. Applicants’ method and system also allow a management station to add specific objects to a notification to provide additional flexibility in management of a network.

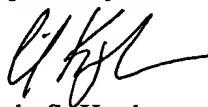
Furthermore, the modification of the MIB in Spofford et al., referred to by the Examiner, is done at the MIB manager which is located at the agent, not the management station. The MIB manager, which modifies the MIB at the agent, adds a new object to the MIB structure in response to a request by the agent (see, for example, col. 3, lines 30-35 and col. 12, lines 42-52). Modifications are thus performed by direction of the MIB manager located at the agent rather than based on instructions from the management station. Applicants’ invention, as set forth in the claims, sends instructions from a management station to an agent.

In a sincere effort to move along prosecution, claim 1 has been further amended to include the limitations of dependent claim 9. The references cited do not show or suggest a management station specifying a list of variable bindings to include in a notification generated at the agent. In rejecting claim 9, the Examiner states that "receiving a list of variable bindings for each of the notifications is inherently implied in a system that receives a MIB." However, the Examiner has failed to show specifying variable bindings for an agent to include in notifications. Notifications are often generated with different variable bindings than those that should be listed in the MIB, either in error or because a network element has not kept up with newer versions of MIBs. Applicants' invention allows a management station to specify variable bindings for each notification so that even if MIBs are not up to date, the notification will include the correct variable bindings required by the management station.

Accordingly, claims 1, 14, 18, 19, 20, and 23 are submitted as patentable over Nguyen et al. and Spofford et al. Claims 2-9, 11-13, and claims 24-29, are submitted as patentable for at least the same reasons as claim 1. Claims 15-17 are submitted as patentable for at least the same reasons as claim 14. Claims 21 and 22, depending from claim 20, are also submitted as patentable for at least the same reasons as claim 20.

For the foregoing reasons, Applicants believe that all of the pending claims are in condition for allowance and should be passed to issue. If the Examiner feels that a telephone conference would in any way expedite prosecution of the application, please do not hesitate to call the undersigned at (408) 399-5608.

Respectfully submitted,



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